

REMARKS

Claims 1-10 have been examined, with all claims rejected based on prior art. Claims 1 and 3 have been rejected under 35 USC 102 (e) as being anticipated by Niessen et al. (U.S. Patent No. 5,367,638; hereinafter "Niessen"). Claims 2, 4, 5, 7, 9, and 10 have been rejected under 35 USC 103(a) as being unpatentable over Niessen in view of Dias (U.S. Patent No. 4,855,690). Claims 6 and 8 have been rejected under 35 USC 103(a) as being unpatentable over Niessen in view of Read et al. (U.S. Patent No. 5,353,243; hereinafter "Read").

Independent claim 1 has been amended to include the features of its dependent claim 2. Independent claim 3 has been amended to include the features of its dependent claim 4.

Amended independent claim 1 recites a method of preventing the external detection of operations in a digital integrated circuit having an asynchronous circuit. The method includes time-varying a supply voltage of the asynchronous circuit to time-shift the execution time of operations within the asynchronous circuit, wherein the time variation of said supply voltage takes place in a random way.

Amended independent claim 3 recites a digital integrated circuit including an asynchronous circuit, and means for time-varying a supply voltage of the asynchronous circuit to time-shift the execution point of operations within the asynchronous circuit, wherein the means for time-varying the supply voltage comprises a random number generator.

Niessen discloses a digital data processing circuit in an apparatus having a data source, which feeds a buffer for intermediate storage of data and subsequent outputting thereof, and a feedback which, under control of a filling degree signal of the buffer, dynamically controls the data handling rate of the data source. See column 1, lines 7-12.

The data source includes integrated digital data processing asynchronous electronic circuitry based on self-timed elements, wherein the operating speed of the electronic circuitry is directly determined by its power supply voltage. See column 8, lines 41-46.

The feedback controls the source of the power supply voltage to vary the actual supply voltage provided to the electronic circuitry so as to dynamically control the data handling rate of the data source as a function of the filling degree signal reflecting the filling degree of the buffer. See column 8, lines 50-60.

The Examiner admits that Niessen fails to disclose that a time variation of a supply voltage takes place in a random way. In an attempt to make up for this deficiency, the Examiner applied Dias.

However, if one were to replace Niessen's feedback of the filling degree signal with a random generator or with a signal varying the supply voltage in a random way, then the desired filling-degree control of Niessen would no longer work. Thus, there cannot be any reasonable expectation of success for one of ordinary skill to modify the circuitry of Niessen as proposed by the Examiner. Moreover, neither Niessen nor Dias disclose any teaching or suggestion that would motivate one skilled in the present field to replace the filling degree feedback control for the buffer of Niessen with a random signal.


Therefore, amended independent claims 1 and 3, along with dependent claims 5-10, are patentable over the applied references for at least these reasons. Reconsideration and withdrawal of the prior art rejections is therefore respectfully requested.

In view of the above, Applicant believes the pending application is in condition for allowance.

In the event a fee is required or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 50-2215.

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Respectfully submitted,

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